

Update on Drug Impaired Driving



WTSC Impaired Driver Conference
SeaTac, December 2006

Barry K Logan PhD 12/4/2007

Alcohol, Drugs and Driving

- Household Survey, 2004 (prior year)

– Any Illicit Drug Use	19.9 Million	8.3%
– Marijuana	14.6 Million	6.1%
– Cocaine	2.0 Million	0.8%
– Methamphetamine	1.4 Million	0.5%
– Hallucinogens	0.93 Million	0.4%

Alcohol, Drugs and Driving

- **Household Survey, 2003-4 (Driving)**

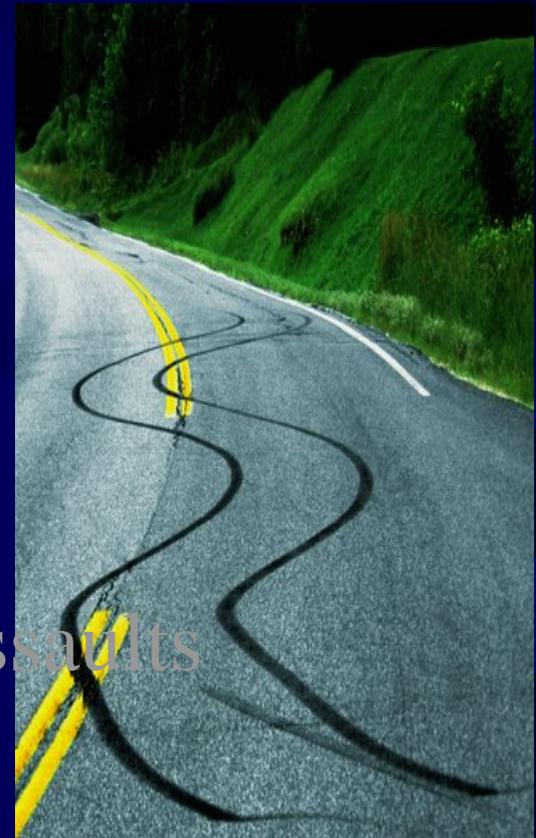
- In **2004**, an estimated **13.5** percent of Americans aged 12 or older (~*32 Million*) drove under the influence of alcohol at least once in the past year.
- In **2003**, an estimated 4.6 percent of Americans aged 12 or older (~*10.9 million*) reported driving under the influence of an **illicit** drug during the past year.
- The **2003** rates were **14.1** percent among young adults aged 18 to 25 and **3.1** percent among adults aged 26 or older. These rates were all similar to the 2002 rates.

Alcohol, Drugs and Driving

- **Household Surveys, 2002-3 (DUI arrests)**
 - **5.9%** of drivers 21 and older reporting that they had driven under the influence of alcohol and illicit drugs and been arrested for DUI in the past year.
 - **2.9%** of those who had driven under the influence of alcohol only during the past year had been arrested for DUI in the past year.
 - **4.8%** of those driving under the influence of illicit drugs only had been arrested for DUI in the past year

Toxicology

- Which drugs are being used by drivers?
 - Survey
 - Data mining
 - Random toxicology test
 - Roadblocks/checkpoints
 - Toxicology test for cause
 - DUI
 - Injury accident
 - Vehicular Homicides and Assaults
 - Trauma data



Trucker Check I & II (1998/99)

	TOTALS OR and WA
Drivers inspected	1026
Vehicles placed out-of-service	226 (21%)
Arrests for DUI	17
Voluntary urine samples	836 (81%)

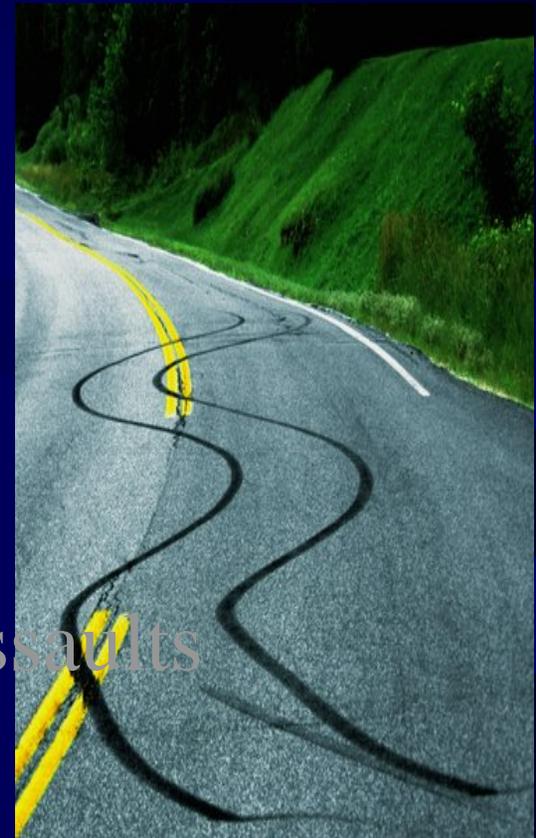
WA/OR Trucker Check Drug Positives

<u>Drug/Class</u>	<u>% Positive</u>
Ephedrine	6.2%
Sedating Antihistamines	4.5%
Cannabinoids	4.3 %
Illicit Stimulants	3.0%
Opiates	1.3%
Ethanol	1.0%
Benzodiazepines	< 1%
Antidepressants	<1%



Toxicology

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Fatally Injured Drivers

	<u>1992/93% Pos</u>	<u>2001/02% Pos</u>
Marijuana	11.01	12.7
Cocaine/met	3.14	3.51
Amphetamines **	1.89	4.86
Benzodiazepines **	1.26	4.05
Diphenhydramine **	0.63	2.70
Hydrocodone **	0.31	1.89
Phenytoin **	0	1.89
Morphine	1.26	1.62
Doxylamine	0.63	0
Amitriptyline	0.31	1.08

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Drugs in Veh Hom/Ass Suspects

- # Positive (n=800)

Cannabinoids	200
Methamphetamine	47
Diazepam / Nordiaz	44
Cocaine / met.	37
Opiates	33
Tricyclic ADs	11
Midazolam	10
Diphenhydramine	7
Meprobamate	6
Phencyclidine	6
Tramadol	5
Alprazolam	4
Carisoprodol	4

Meperidine	4
Phenytoin	4
Methadone	3
Doxylamine	3
Valproic acid	3
Phenobarbital	2
Gabapentin	1
Pentazocine	1
Lamotrigene	1
Trazadone	1
Phendimetrazine	1
Zolpidem	1

Drugs in Veh Hom/Ass Suspects WA 2002/3

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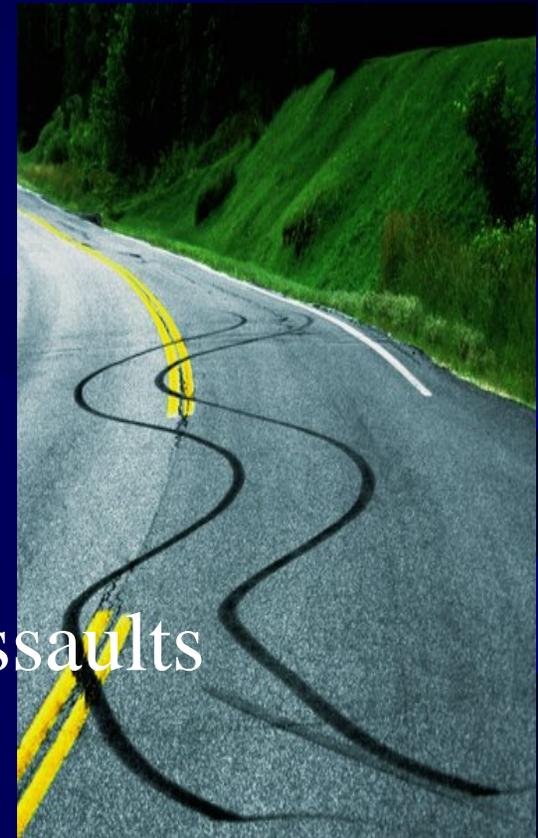
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Phenytoin	4
Methadone	3
Doxylamine	3
Valproic acid	3
Phenobarbital	2
Gabapentin	1
Pentazocine	1
Lamotrigene	1
Trazadone	1
Phendimetrazine	1
Zolpidem	1

66% are
Illicit/Abused
Drugs

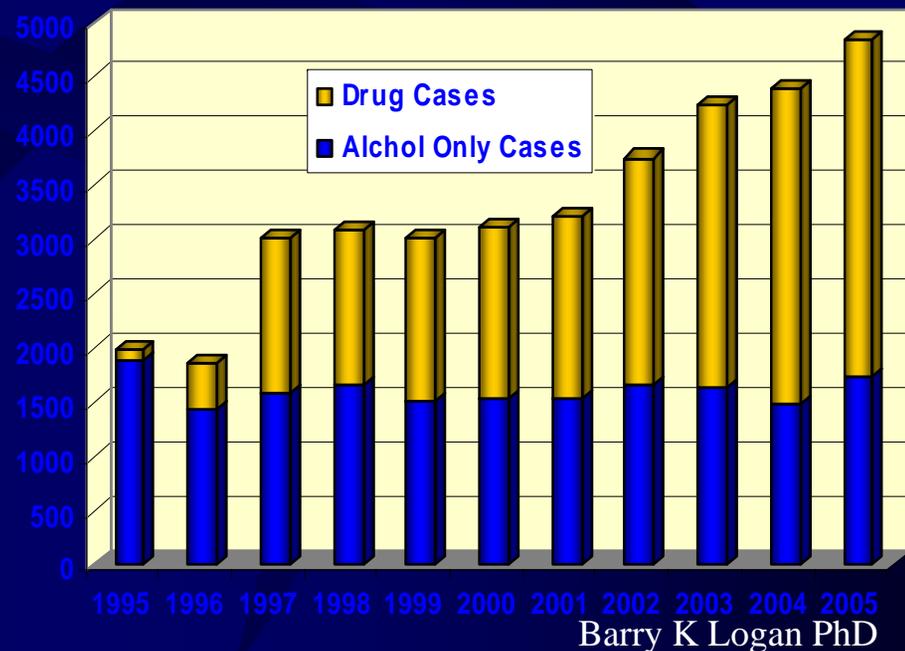
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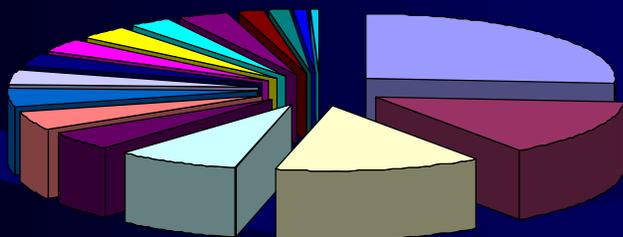
WA DUI casework by the Numbers

- 38,381 DUI Breath tests (2006 ytd)
- 4,850 DUI Blood tests (2005)
 - 1775 tested for Alcohol only
 - 3075 DUI Blood Tests for Drugs
 - 2687 (87%) Positive DUID cases



2005 DUID Statistics – WA State

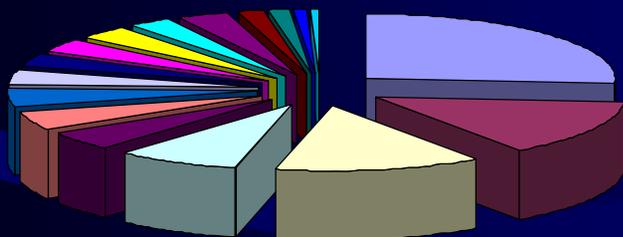
231 Different Substances Identified in 3075 DUI Suspects



THC	1150
Benzodiazepines	629
Methamphetamine	591
Cocaine	350
Methadone	215
SSRIs	201
Morphine*	199
Soma	171

2005 DUID Statistics – WA State

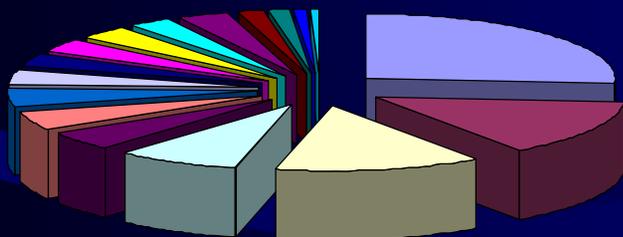
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Hydrocodone	152
Anti-Epileptics	147
Narcotics	144
Antihistamines	144
Oxycodone	121
Zolpidem	80
Dextromethorphan	36
PCP	22
MDMA	22

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Dextromethorphan

- **An over-the-counter antitussive**
 - Present in hundreds of cold, cough and flu preparations.
 - Dosing 20-30mg q.i.d. (60-120mg/day)



Dextromethorphan

- Abuse

- Slang terms:
- DXM, DM, Dex, Robo, Rojo, Velvet, Skittles, Triple C.
- Robo-tripping, Skittling, Dexing, Pharming.



Dextromethorphan

- Abuse (150 - >1000mg/dose)
 - Continuum of dose dependent effects
 - Intoxication: “stoned and drunk”
 - Restlessness, mild stimulant effect
 - Dissociative/hallucinogenic effects
 - Complex sensory dissociation
 - Jumbling of visual images
 - Loss of depth perception/diplopia
 - Mind body dissociation

DXM + Chlorpheniramine

- Typical case – 20 y.o. male driver
 - 0016 hrs: Observed to strike the curb.
 - Drove down the center of the street.
 - Sudden right turn with no signaling.
- Droopy-eyed, sleepy look
- Moved in slow motion
- Handed over entire wallet
- Fumbled for ID
- Slurred speech, flushed face, confused about age

DXM + Chlorpheniramine

- Typical case – 20 y.o. male driver
- No odor of intoxicants
- Stumbled, walked slowly and deliberately
- HGN and VGN with immediate onset
- Could not balance sufficiently well for SFST

DXM + Chlorpheniramine

- Typical case – 20 y.o. male driver
- Arrested for DUI
- Admits to taking 24 Coricidin ® pills several hours earlier for the purposes of hallucinating. Also had smoked marijuana earlier that day, and took Prozac.

DXM + Chlorpheniramine

- Typical case – 20 y.o. male driver
- DRE Exam:
- Alcohol negative by breath
- Appearance: cooperative, slow speech, flushed
- SFSTs: balance problems, not following instructions, stepped off the line
- HGN and VGN present, eyes watery, dilated
- Pulse 102 – 118 bpm, BP 152/110
- Muscle tone normal

DXM + Chlorpheniramine

- Typical case – 20 y.o. male driver
- Time of stop 00:16hrs
- Time of blood draw 01:30hrs
- Toxicology:
 - Dextromethorphan 0.67mg/L
 - Chlorpheniramine 0.18mg/L
 - THC/THC-COOH neg

DXM + Chlorpheniramine

- Admitted abusers (n=5):

History	DXM	Chlorph.
Took 48 Coricidin ® pills	0.47mg/L	0.18mg/L
Took 24 Coricidin ® pills 6 hours earlier to hallucinate.	0.67mg/L	0.18mg/L
Takes 24-32 pills at a time.	0.74mg/L	0.13mg/L
Drank 2 eight ounce bottles of Equate ® and took 20 pills nine hours earlier	1.00 mg/L	Neg
Drank 2 bottles Robitussin and took 5 trays of Coricidin ®	1.22mg/L	0.27mg/L

Dextromethorphan and Driving

- Conclusions

- The popular practice of dextromethorphan abuse results in driving impairment.
- Signs of impairment are often a result of combined DXM dissociative and Chlorpheniramine CNS depressant effects.
- Coming to highway near you!



Toxicology

Current Drug Impaired Driving Projects at the Washington State Toxicology Laboratory.

- How can we increase rates of drug testing of surviving drivers in fatal injury collisions?
- Developing national guidelines for drug testing in DRE programs.
- Updating Assessment of Methamphetamine impairment
- Reviewing Methadone Driving Impairment

T2007



Seattle Sheraton
August 26th – 30th, 2007

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DUI Epidemiology

DRE

Zero tolerance laws

Impairment testing

Vehicle technology

Breath Alcohol Testing

Roadblocks

Drug Courts

Youth DUI

Licensing and Relicensing

Saliva Drug Testing

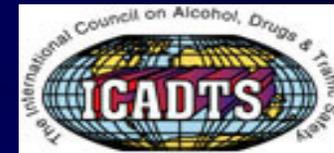
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